

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) Machine tool, ~~especially a lathe~~, comprising:

a machine frame; ~~upon which~~

a first spindle housing carrier and a second spindle housing carrier ~~are disposed on said~~
machine frame in such a way that they can be moved in a Z direction in relation to each other;[,]

a first working spindle, which receives a first workpiece and is mounted rotatably about a
first spindle axis in a first spindle housing seated on the first spindle housing carrier, said first
spindle housing carrier extending laterally away from said first spindle housing parallel to a first
lateral direction;

a second working spindle, which is disposed coaxially with respect to the first working
spindle, receives a second workpiece and is mounted rotatably about a second spindle axis in a
second spindle housing seated on the second spindle housing carrier, said second spindle housing
carrier extending laterally away from said second spindle housing parallel to said first lateral
direction;

a first tool carrier, which is movable in an X direction and is associated with the first
working spindle for the machining of the first workpiece, disposed in the ~~latter~~, first working
spindle, said first tool carrier and said first spindle housing carrier being arranged on
approximately opposite sides of said first spindle axis;

a second tool carrier, which is movable in an X direction and is associated with the
second working spindle for the machining of the second workpiece, disposed in the ~~latter~~, second
working spindle, said second tool carrier and said second spindle housing carrier being arranged
on approximately opposite sides of said second spindle axis;

the first and second tool carriers being disposed on the same side of the spindle axis;

~~and a machine control unit for controlling the relative movements between the first workpiece and the tools of the first tool carrier and the second workpiece and the tools of the second tool carrier;~~ ~~wherein the spindle housing carriers extending laterally away from the spindle housings and~~

a third tool carrier, movable at least in an X direction and associated with one of the working spindles, said third tool carrier being provided between the spindle housing carriers of the first and second working spindles on a side of the spindle axes which is approximately opposite from the first and second tool carriers.

2. (Currently Amended) ~~Machine tool according to claim 1~~ Machine tool, comprising:

a machine frame;

a first spindle housing carrier and a second spindle housing carrier disposed on said machine frame in such a way that they can be moved in a Z direction in relation to each other;

a first working spindle, which receives a first workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the first spindle housing carrier;

a second working spindle, which is disposed coaxially with respect to the first working spindle, receives a second workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the second spindle housing carrier;

a first tool carrier, which is movable in an X direction and is associated with the first working spindle for the machining of the first workpiece;

a second tool carrier, which is movable in an X direction and is associated with the second working spindle for the machining of the second workpiece;

the first and second tool carriers being disposed on the same side of the spindle axis;

a machine control unit for controlling the relative movements between the first workpiece and tools of the first tool carrier and the second workpiece and tools of the second tool carrier;

and a third tool carrier, movable at least in an X direction and associated with one of the

working spindles, said third tool carrier being provided between the spindle housing carriers of the first and second working spindles on a side of the spindle axes which is approximately opposite from the first and second tool carriers,

wherein the third tool carrier is disposed on an X slide, which is guided on an X slide base by X guides disposed in an X guiding plane perpendicular to the spindle axes.

3. (Currently Amended) Machine tool according to ~~claim 1~~ claim 2, wherein a fourth tool carrier is disposed between the first and second spindle housing carriers and the third tool carrier is associated with the first working spindle and the fourth tool carrier is associated with the second working spindle.

4. (Original) Machine tool according to claim 3, wherein the fourth tool carrier is disposed on an X slide which is guided on an X slide base by X guides disposed in the X guiding plane perpendicular to the spindle axes.

5. (Currently Amended) Machine tool according to claim 3, wherein the third tool carrier and the fourth tool carrier are ~~respectively seated on an~~ respective X slides of their own.

6. (Original) Machine tool according to claim 5, wherein the X slide of the third tool carrier and the X slide of the fourth tool carrier are seated on a common X slide base.

7. (Currently Amended) Machine tool according to claim 5, wherein each of the X slides has ~~an a~~ respective X slide base of its own.

8. (Currently Amended) Machine tool according to ~~claim 1~~ claim 2, wherein the X guides have in the transverse direction running in the X guiding plane and transversely to the X direction a spacing from each other which corresponds at least to an effective diameter of the workpiece receptacle in the respective working spindles.

9. (Currently Amended) Machine tool according to ~~claim 1~~ claim 2, wherein the X guides have in a transverse direction running in the X guiding plane and transversely to the X direction a spacing from each other which is of the order of magnitude of an extent of the respective tool carrier in the transverse direction.

10. (Currently Amended) Machine tool according to ~~claim 1~~ claim 2, wherein the X slide has a slide body which is guided by the X guides close to its edge sides that are spaced apart in ~~the~~ a transverse direction.

11. (Currently Amended) Machine tool according to ~~claim 1~~ claim 2, wherein ~~the~~ a slide body is guided by the X guides seated on edge surfaces running transversely to the X guiding plane.

12. (Currently Amended) Machine tool according to ~~claim 1~~ claim 2, wherein the X slide base is formed as a Z slide guided by Z guides.

13. (Currently Amended) Machine tool ~~according to claim 12~~, comprising:

a machine frame;

a first spindle housing carrier and a second spindle housing carrier disposed on said machine frame in such a way that they can be moved in a Z direction in relation to each other;

a first working spindle, which receives a first workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the first spindle housing carrier;

a second working spindle, which is disposed coaxially with respect to the first working spindle, receives a second workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the second spindle housing carrier;

and

a tool carrier, movable at least in an X direction and associated with one of the

working spindles, said tool carrier being provided between the spindle housing carriers of the first and second working spindles on the same side of the spindle axes;

wherein the tool carrier is disposed on an X slide, which is guided on an X slide base, a Z slide carrying said X slide base and being wherein the Z slide is guided by a Z guide on the spindle housing carrier which has its working spindle associated with the tool carrier disposed on the Z slide.

14. (Currently Amended) Machine tool according to claim 13, wherein the Z guide has an arm which extends from the Z slide in the direction of the spindle housing carrier ~~guiding the latter~~.

15. (Original) Machine tool according to claim 14, wherein the arm extends beyond the spindle housing carrier.

16. (Original) Machine tool according to claim 14, wherein the arm extends through a Z guiding receptacle for said arm which is disposed on the spindle housing carrier.

17. (Currently Amended) Machine tool according to ~~claim 1~~ claim 13, wherein a Z axial drive is provided, with which the Z slide can be moved in relation to the respective spindle housing carrier.

18. (Currently Amended) Machine tool according to claim 17, wherein ~~a~~ the Z axial drive is effective between the arm and the spindle housing carrier ~~guiding the latter~~.

19. (Original) Machine tool according to claim 18, wherein a drive motor for the Z axial drive is held by the arm.

20. (Original) Machine tool according to claim 14, wherein an X axial drive motor for the X slide is disposed at an end of the arm opposite from the Z slide.

21. (Original) Machine tool according to claim 20, wherein a drive train extends along the arm between the X axial drive motor and the Z slide.
22. (Original) Machine tool according to claim 21, wherein the drive train is led through the arm.
23. (Currently Amended) Machine tool according to ~~claim 1~~ claim 13, wherein the Z slide is supported by at least one guiding element on ~~the~~ a Z guide provided on the machine frame.
24. (Currently Amended) Machine tool according to claim 23, wherein the Z slide is guided by a ~~guiding the guiding~~ element respectively on one of two Z guides disposed on the machine frame.
25. (Original) Machine tool according to claim 23, wherein at least one of the guiding elements is guided on the corresponding Z guide with a guiding length in the Z direction which is less than a guiding length accepting tilting moments of the Z slide.
26. (Original) Machine tool according to claim 23, wherein at least one of the guiding elements is guided on the corresponding Z guide in such a way that the latter only accept forces lying in a plane running transversely to the Z direction.
27. (Currently Amended) Machine tool according to ~~claim 12~~ claim 13, wherein the Z guides disposed on the machine frame are also formed as Z guides of a further slide guided on the machine frame.
28. (Original) Machine tool according to claim 1, wherein at least one of the spindle housing carriers forms a spindle housing carrier slide which can be made to move in the Z direction for the working spindle carried by said slide.

29. (Original) Machine tool according to claim 28, wherein both spindle housing carriers are formed as spindle housing carrier slides which can be made to move in the Z direction.

30. (Currently Amended) Machine tool according to claim 28, wherein a Z guiding plane, in which the Z guides for the spindle housing carrier slide lie, runs transversely to a setting-up area of the machine frame.

31. (Currently Amended) Machine tool according to claim 28, wherein ~~the~~ a Z slide is guided at least on one of the two spaced-apart Z guides for the respective spindle housing carrier slide.

32. (Currently Amended) Machine tool according to claim 31, wherein the Z slide is guided on both the spaced-apart Z guides for the respective spindle housing carrier slide.

33. (Currently Amended) ~~Machine tool according to claim 1,~~ Machine tool, comprising:

a machine frame;

a first spindle housing carrier and a second spindle housing carrier disposed on said machine frame in such a way that they can be moved in a Z direction in relation to each other;

a first working spindle, which receives a first workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the first spindle housing carrier;

a second working spindle, which is disposed coaxially with respect to the first working spindle, receives a second workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the second spindle housing carrier;

a first tool carrier, which is movable in an X direction and is associated with the first working spindle for the machining of the first workpiece;

a second tool carrier, which is movable in an X direction and is associated with the second working spindle for the machining of the second workpiece;

the first and second tool carriers being disposed on the same side of the spindle axis;

a third tool carrier, movable at least in an X direction and associated with the first

working spindle;

a fourth tool carrier movable at least in an X direction associated with the second working spindle, said third and fourth tool carriers being provided on a side of the spindle axes which is approximately opposite from the first and second tool carriers;

a machine control unit for controlling the relative movements between the first workpiece and tools of the first tool carrier and the second workpiece and tools of the second tool carrier;

wherein with the machine control unit in a machining mode, the third tool carrier can be made to move in relation to the first working spindle and the fourth tool carrier can be made to move in relation to the second working spindle into the Z positions required for the machining of the first workpiece and second workpiece, respectively.

34. (Original) Machine tool according to claim 33, wherein with the machine control unit in the machining mode, the first tool carrier and the first working spindle can be made to move in relation to each other into the Z positions required for the machining of the first workpiece.

35. (Original) Machine tool according to claim 33, wherein with the machine control unit in the machining mode, the second tool carrier and the second working spindle can be made to move in relation to each other into the Z positions required for the machining on the second workpiece.

36. (Currently Amended) Machine tool according to claim 1, wherein the third tool carrier carries tools which can be used at least on one of the workpieces, with the machine control unit in a machining mode, one of the working spindles being movable in relation to the third tool carrier in a way corresponding to the Z positions required for the machining of the respective workpiece by means of the tool provided on the third tool carrier for this workpiece, and the tool carrier associated with this working spindle being movable in relation to this working spindle in a way corresponding to the Z positions required for the machining of this workpiece by means of ~~a tool~~ the tool provided on this tool carrier, likewise associated with the working spindle.

37. (Currently Amended) ~~Machine tool according to claim 1,~~ Machine tool, comprising:

a machine frame;

a first spindle housing carrier and a second spindle housing carrier disposed on said machine frame in such a way that they can be moved in a Z direction in relation to each other;

a first working spindle, which receives a first workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the first spindle housing carrier;

a second working spindle, which is disposed coaxially with respect to the first working spindle, receives a second workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the second spindle housing carrier;

a first tool carrier, which is movable in an X direction and is associated with the first working spindle for the machining of the first workpiece;

a second tool carrier, which is movable in an X direction and is associated with the second working spindle for the machining of the second workpiece;

the first and second tool carriers being disposed on the same side of the spindle axis;

a third tool carrier, associated with the first working spindle;

a fourth tool carrier associated with the second working spindle, said third and fourth tool carriers being provided on a side of the spindle axes which is approximately opposite from the first and second tool carriers; and

a machine control unit for controlling the relative movements between the first workpiece and tools of the first tool carrier and the second workpiece and tools of the second tool carrier;

wherein with the machine control unit in the machining mode, the first working spindle is movable in relation to the third tool carrier and the second working spindle is movable in relation to the fourth tool carrier into the Z positions required for the machining of the first workpiece and second workpiece, respectively.

38. (Currently Amended) Machine tool according to claim ~~36~~37, wherein the first tool carrier is movable in relation to the first working spindle and the second tool carrier is movable in relation to the second working spindle into the Z positions required for the machining.

39. (New) Machine tool according to claim 13, wherein said tool carrier is a third tool carrier, said machine tool further comprising:

- a first tool carrier, which is movable in an X direction and is associated with the first working spindle for the machining of the first workpiece;

- a second tool carrier, which is movable in an X direction and is associated with the second working spindle for the machining of the second workpiece;

- the first and second tool carriers being disposed on the same side of the spindle axis; and

- a machine control unit for controlling the relative movements between the first workpiece and tools of the first tool carrier and the second workpiece and tools of the second tool carrier.

40. (New) Machine tool, comprising:

- a machine frame;

- a first spindle housing carrier and a second spindle housing carrier disposed on said machine frame in such a way that they can be moved in a Z direction in relation to each other;

- a first working spindle, which receives a first workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the first spindle housing carrier;

- a second working spindle, which is disposed coaxially with respect to the first working spindle, receives a second workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the second spindle housing carrier;

- a tool carrier, movable at least in an X direction and associated with the first working spindle; and

- a further tool carrier movable at least in an X direction associated with the second working spindle;

- said tool carriers being provided on the same side of the spindle axes;

wherein with a machine control unit in a machining mode, the tool carrier can be made to move in relation to the first working spindle and the further tool carrier can be made to move in relation to the second working spindle into Z positions required for the machining of the first workpiece and second workpiece, respectively.

41. (New) Machine tool, comprising:

- a machine frame;

- a first spindle housing carrier and a second spindle housing carrier disposed on said machine frame in such a way that they can be moved in a Z direction in relation to each other;

- a first working spindle, which receives a first workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the first spindle housing carrier;

- a second working spindle, which is disposed coaxially with respect to the first working spindle, receives a second workpiece and is mounted rotatably about a spindle axis in a spindle housing seated on the second spindle housing carrier;

- a tool carrier, associated with the first working spindle; and

- a further tool carrier associated with the second working spindle;

- said tool carriers being provided on the same side of the spindle axes;

wherein with a machine control unit in the machining mode, the first working spindle is movable in relation to the tool carrier and the second working spindle is movable in relation to the further tool carrier into Z positions required for the machining of the first workpiece and second workpiece, respectively.